A. AMENDMENTS TO THE CLAIMS

WHAT IS CLAIMED IS:

1. **(Currently Amended)** A directional coupler comprising:

a) a first circuit line having a first end and a second end;

b) an input port connected to the first end and an output port connected to the second end;

c) a second circuit line having a third end and forth end, the first and second circuit lines located proximate to each other such that they are electromagnetically coupled;

d) a forward coupled port connected to the third end and a reverse coupled port connected to the fourth end;

e) a first low pass filter <u>having a constant impedance, said first low pass filter</u> connected to the forward coupled port, said low pass filter having <u>a first inductor connected between the forward coupled port and the third end,</u> the first low pass filter shifting the operating frequency of the directional coupler <u>to a lower frequency and thereby maintaining a predetermined return loss</u>.

2. **(Currently Amended)** The directional coupler according to Claim 1, wherein the first low pass filter comprises:

~~a first inductor connected between the forward coupled port and the third end;~~

a first resistor having a first and second end, the first end of the first resistor connected to the forward coupled port;

a second resistor having a third and fourth end, the third end of the second resistor connected to the third end of the second circuit line;

an optional third resistor connected in parallel with and in the same manner as said second resistor, said third resistor utilized, when required, by power levels.

a first capacitor having one end connected to the second end of the first resistor and the fourth end of the second resistor, the other end of the first capacitor connected to ground.

3. **(Original)** The directional coupler according to Claim 1, wherein the first and second circuit lines have a sinuous shape.

4. **(Currently Amended)** The directional coupler according to Claim ~~1~~ 2, wherein a ~~third and~~ fourth and fifth resistor are connected in parallel between the reverse coupled port and ground.

5. **(Currently Amended)** The directional coupler according to Claim 1, wherein a second low pass filter is connected to the reverse coupled port, said first and said second low pass filter shifting

the operating frequency of the directional coupler to a lower frequency and thereby maintaining a predetermined return loss.

6. **(Currently Amended)** The directional coupler according to Claim 5, wherein the second low pass filter comprises:

a second inductor connected between the reverse coupled port and the fourth end;

a ~~fifth~~ sixth resistor having a first and second end, the first end of the ~~fifth~~ sixth resistor connected to the reverse coupled port;

a ~~sixth~~ seventh resistor having a third and fourth end, the third end of the ~~sixth~~ seventh resistor connected to the fourth end of the second circuit line;

a second capacitor having one end connected to the second end of the ~~fifth~~ sixth resistor and the fourth end of the ~~sixth~~ seventh resistor, the other end of the second capacitor connected to ground.

7. **(Canceled)**

8. **(Canceled)**

9. **(Currently Amended)** The directional coupler ~~according to Claim 7, wherein the first low pass filter comprises:~~ comprising:

a) a high frequency stripline coupler including a first and second coupled circuit line, the circuit lines located between a first and second ground plane;

b) a first low pass filter connected to the second circuit line, the low pass filter shifting the operating frequency of the directional coupler to a lower frequency, said first low pass filter, in turn, comprises:

an inductor having a first and second end, the second end of the inductor connected to the second circuit line;

a first resistor having a first and second ~~and third~~ end, the first ~~second~~ end of the resistor connected to the first end of the inductor;

a second resistor having a third and fourth ~~and fifth~~ end;

a third resistor having a fifth and sixth ~~and seventh~~ end, the third and fifth ~~fourth and sixth~~ ends of the resistors connected to the second end of the inductor;

a capacitor having ~~an~~ a seventh and eighth ~~and ninth~~ end, the ~~eighth~~ seventh end of the capacitor connected to the second, fourth ~~third, fifth~~ and sixth ~~seventh~~ ends of the

resistors, the eighth ~~ninth~~ end of the capacitor connected to ground.

10. **(Currently Amended)** A directional coupler comprising:

a) a multi-layered substrate, the substrate having an upper surface and a lower surface;

b) a first circuit line located within the substrate on a first layer and having a first and second end, the first end connected to an input port and the second end connected to an output port;

c) a second circuit line located within the substrate on a second layer and having a third and fourth end, the fourth end connected to a reverse coupled port;

d) a first, second, third and fourth terminal located on the lower surface;

e) a first via extending between the first terminal and the first end;

f) a second via extending between the second terminal and the second end;

g) a third via extending between the third terminal and the third end;

h) a fourth via extending between the fourth terminal and the second end; and

I) a first low pass filter connected between the third end and forward coupled port~~.~~ ,said first low pass filter shifting the operating frequency of said directional coupler to a lower frequency, said low pass filter, in turn, comprising:

a first inductor connected between the forward coupled port and the third end.

11. **(Currently Amended)** The directional coupler according to Claim 10, wherein the first low pass filter comprises:

~~a first inductor connected between the forward coupled port and the third end;~~

a first resistor having a first and second end, the first end of the first resistor connected to the forward coupled port;

a second resistor having a third and fourth end, the third end of the second resistor connected to the third end of the second circuit line;

a first capacitor having one end connected to the second end of the first resistor and the fourth end of the second resistor, the other end of the first capacitor connected to ground.

12. **(Canceled)**

13. **(Currently Amended)** The directional coupler according to Claim ~~10~~ 24, wherein a resistor network is connected between the reverse coupled port and the ~~fourth~~ second end of the second coupled circuit line.

14. **(Currently Amended)** The directional coupler according to Claim ~~10~~ 9, wherein the first and second circuit lines have a sinuous shape.

15. **(Currently Amended)** The directional coupler according to Claim ~~10~~ 9, further comprising a multilayer substrate, said substrate having an upper surface and a lower surface and wherein the substrate and the low pass filter are mounted on a printed circuit board having an upper surface and lower surface.

16. **(Currently Amended)** The directional coupler according to Claim 15, wherein the printed circuit board has a first and second terminal disposed on the lower surface and has a third circuit line connected to the first terminal and a fourth circuit line connected to the second terminal and a fifth circuit line connected to the low pass filter.

17. **(Original)** The directional coupler according to Claim 16, wherein the printed circuit board is mounted in a housing.

18. **(Original)** The directional coupler according to Claim 17, wherein a first, second and third coaxial connector are mounted to the housing, the first coaxial connector connected to the third circuit line, the second coaxial connected to the fourth circuit line and the third coaxial connector connected to the fifth circuit line.

19. **(Currently Amended)** A directional coupler comprising:

a) a printed circuit board, having an input port, an output port and a forward coupled port;

b) a substrate mounted to the printed circuit board, the substrate having a plurality of layers and an upper surface and a lower surface;

c) a first and second coupled circuit line located within the substrate on different layers, the first circuit line having a first and second end, the first end connected to the input port and the second end connected to the output port, the second circuit line having a third and fourth end, the fourth end connected to a termination; and

d) a first low pass filter mounted to the printed circuit board and connected between the third end and the forward coupled port~~.~~ , said first low pass filter shifting the operating frequency of said directional coupler to a lower frequency, said low pass filter, in turn, comprising:

a first inductor connected between the forward coupled port and the third end.

20. **(Currently Amended)** The directional coupler according to claim 19, wherein the first low pass filter comprises:

~~a first inductor connected between the forward coupled port and the third end;~~

a first and second resistor connected in parallel across the first inductor;

a first capacitor connected between the first and second resistors and ground.

21. **(Original)** The directional coupler according to claim 19, wherein the termination is an impedance matching resistor network.

22. **(Original)** The directional coupler according to claim 19, wherein a resistor network is mounted to the printed circuit board

and is connected between ground and the fourth end.

23. **(New)** The directional coupler according to Claim 9, wherein the first low pass filter has a constant impedance.

24. **(New)** The directional coupler according to Claim9 wherein said high frequency stripline coupler has a forward coupled port and said second coupled circuit line has a first end and a second end and wherein said first low pass filter is connected between the forward coupled port and the first end of said second coupled circuit line.

25. **(New)** The directional coupler according to Claim 9 wherein said high frequency stripline coupler has a reverse coupled port and said second coupled circuit line has a first end and a second end and wherein said second low pass filter is connected between the reverse coupled port and the second end of said second coupled circuit line.